

**WAC 197-11-960 Environmental checklist.**

**ENVIRONMENTAL CHECKLIST**

**A. BACKGROUND**

**1. Name of proposed proposal, if applicable:** Evaluation of GreenClean, an algaecide, for use in Washington State waters.

**2. Name of applicant:** Ecology's Water Quality Program

**3. Address and phone number of applicant and contact person:**

Kathleen Emmett  
Water Quality Program  
PO Box 47600  
Olympia, WA 98504-7600  
Telephone 360-407-6478  
Fax 360-407-6426  
kemm461@ecy.wa.gov

**4. Date checklist prepared:** January 20, 2004

**5. Agency requesting checklist:** Dept. of Ecology

**6. Proposed timing or schedule (including phasing, if applicable):** A 30-day review period is planned, starting January 21, followed by permit modifications completed by February 23, 2004.

**7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.** We are proposing to permit an algaecide, GreenClean (EPA registration number 70299-4) for use in Washington State waters under General NPDES Permits No. WAG 993000, Aquatic Nuisance Plant and Algae Control and WAG-991000, Irrigation System Aquatic Weed Control.

**8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

- GreenClean Granular Label, EPA Reg. No. 70299-4 and MSDS, dated May 30, 2003; <http://www.biosafesystems.com/labels/GC-SpecMSDS.pdf>
- Machado, Mark. GreenClean – Acute Toxicity To Rainbow Trout, BioSafe Systems, December 6, 2001.
- USEPA Memorandum on the Registration of the new end-use product ZeroTol™ containing 27.18% hydrogen dioxide as its active ingredient. Review of Ecological Effects Data (Submission No. S528317; Chemical No. 000595; Case No. 060484, MRID nos. 44116004 and 44116005; DP Barcode D230593) January 23, 1998.



- USEPA Fact Sheet, Sodium Carbonate Peroxyhydrate (128860), [http://www.epa.gov/pesticides/biopesticides/ingredients/factsheets/factsheet\\_128860.htm](http://www.epa.gov/pesticides/biopesticides/ingredients/factsheets/factsheet_128860.htm)
- Review comments from Barbara Morrissey, Toxicologist for the Washington State Department of Health, Olympia, WA, 11/24/03.
- M.C. Fowler, and P.R.F. Barrett: Preliminary studies of the potential of Hydrogen Peroxide as an algaecide on filamentous species. *Proceedings EWRS/AAB 7<sup>th</sup> Symposium on Aquatic Weeds*, pp 113-118 (1986).
- Ehrlich, Linda C., Ph. D., “Sodium Percarbonate Efficacy Study, Bill Evers Reservoir, City of Bradenton Florida, Evers Reservoir Environmental Data Synthesis:1996.” Spirogyra Diversified Environmental Services, May 28, 1997.
- P.C. Quimby Jr., and S.H. Kay: Sodium carbonate peroxyhydrate as a new algaecide. *Abstract of Meeting of the Weed Science Society of America*, (1984).
- S.H. Kay, P.C. Quimby Jr., and J.D. Ouzts: H<sub>2</sub>O<sub>2</sub>: A potential algaecide for aquaculture. *Proceedings of the Southern Weed Science Society*, **35**, 275-289 (1982).
- P.C. Quimby Jr., S.H. Kay, and J.D. Ouzts: Sodium carbonate peroxyhydrate as a potential algaecide. *J. Aquatic Plant Management*, **26**, 67-68 (1988).
- S.H. Kay, P.C. Quimby Jr., and J.D. Ouzts: Photo-enhancement of hydrogen peroxide toxicity to submersed vascular plants and algae. *J. Aquatic Plant Management*, **22**, 25-34 (1984).

**9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. No**

**10. List any government approvals or permits that will be needed for your proposal, if known. The proposal is to add GreenClean to the list of approved products for use as an algaecide in Washington waters under water pollution control general permits.**

**11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.).** Designed for aquatic applicators and commercial users, GreenClean is a peroxygen-based granular algaecide for the treatment and prevention of algae in ponds, streams, irrigation systems, ornamental pools, and fountains. Its mode of action is oxidation, which provides fast control of surface algae and bottom-growing filamentous algae and algae blooms. GreenClean releases oxygen as it works, which is beneficial in stagnant waters. EPA approved the BioSafe Systems GreenClean Granular Algaecide label (EPA registration No. 70299-U) June 2, 2003.

Use of GreenClean in Washington State necessitates modification of permits WAG-991000, Irrigation System Aquatic Weed Control NPDES Waster Discharge General Permit and WAG 994000, Aquatic Nuisance Plant and Algae Control NPDES General Permit. These are statewide general permits that would authorize and condition the use of GreenClean in lakes, ponds, and irrigation conveyance systems in Washington State for the control of algae.



**12. Location of the proposal.** Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. The proposal is to authorize and condition the use of GreenClean in lakes, ponds, and irrigation conveyance systems in Washington State for the control of algae.

**TO BE COMPLETED BY APPLICANT**

**EVALUATION FOR  
AGENCY USE ONLY**

**B. ENVIRONMENTAL ELEMENTS**

**1. Earth**

Terrestrial applications are not within the scope of this proposal and terrestrial landscapes around areas of application would not be affected by applications of GreenClean to waters.

**a. General description of the site (circle one):** Flat, rolling, hilly, steep slopes, mountainous, other . . .  
GreenClean product would only be applied to Washington State waters.

**b. What is the steepest slope on the site (approximate percent slope)?** NA (not applicable)

**c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)?** If you know the classification of agricultural soils, specify them and note any prime farmland. NA

**d. Are there surface indications or history of unstable soils in the immediate vicinity?** If so, describe. NA

**e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.** NA

**f. Could erosion occur as a result of clearing, construction, or use?** If so, generally describe. None could occur.

**g. Approximately, what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?** NA

**h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:** NA

**2. Air**

**a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, and industrial wood smoke) during construction and when the project is completed?** If any, generally describe and give approximate quantities if known. GreenClean breaks down into components of oxygen and carbon dioxide after dissolving and reacting with algae. However, during the application, suspended dust or droplets may cause slight nose and



throat irritation, severe eye irritation, and slight irritation to the skin. These affects are largely mitigated by product label requirements for personal protective equipment (goggles and gloves to be worn by applicators). Ecology permit conditions will also require closure of the area of application to water activities such as swimming, boating, and fishing to ensure protection of the public during and post treatment for two hours.

Upon review of the GreenClean product, the Washington State Department of Health determined that:

It appears that the [GreenClean FIFRA] label language is protective of human health. The label provides only vague guidance on re-entry after water treatment, “Keep unprotected persons out of the treated areas until sprays have dried or dusts have settled.” It seems reasonable to keep people away from the vicinity of the applicator during the application (Personal Communication via agency letterhead from Barbara Morrissey, Toxicologist, Pesticide Illness Monitoring Program, WDOH, November 23, 2003).

**b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.** None known.

**c. Proposed measures to reduce or control emissions or other impacts to air, if any: Label conditions largely control emissions.** Ecology permits will also require posting the area off limits during and post treatment for two hours.

### 3. Water

#### a. Surface:

**1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.** The general permits will authorize use of GreenClean in lakes, ponds and irrigation conveyance systems across the state. Surrounding shorelands and wetlands will not be permitted for treatment.

**2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.** GreenClean applications do not require work to be performed in water. Applications are usually made by boats or from docks or shores.

**3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.** None.

**4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.** None required.



**5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.** The general permits will authorize use of GreenClean in lakes, ponds, and irrigation conveyance systems across the state that may lie in floodplains.

**6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.** Wastes from the product discharged will be comprised of undissolved sodium carbonate peroxyhydrate as well as dead algae and organic materials resulting from the application. The volume is anticipated to be minimal because this product will not be authorized for use in wetlands or around the riparian zone of lakes and ponds. The label requires the applicator to skim any dead algae or organic matter off the surface of the water to prevent adding nutrients to the water. Maximum label application rates allows 170 lbs./acre-foot of water, or a maximum concentration of 61.52 ppm GreenClean.

**1) Half-Life of GreenClean**

The half-life of this product is strongly dependent upon environmental conditions. The more algae and organic material that the active ingredient comes in contact with, the faster it will break down. In general, studies have shown the half-life of this active ingredient to be 1-8 hours, with no residual remaining at 24 hours.

**2) Degradation Pathway**

Air: N/A

Water: Hydrolysis; Degrades to sodium carbonate, carbon dioxide, bicarbonate, carbonate, and hydrogen peroxide which then degrades to water and oxygen.

Soil: Hydrolysis; same as above for water.

**3) pH/Hardness Effects**

GreenClean may be slightly less active under high pH conditions and in harder water. Therefore, there will be a reduced toxicity risk in Washington relative to the current study results.

**b. Ground:**

**1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.** Neither

**2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.** None.

**c. Water runoff (including stormwater):** None

**1) Describe the source of runoff (including storm water) and method of collection and disposal, if any(include quantities, if known). Where will this water flow? Will this water flow into other**



**waters? If so, describe.** No runoff anticipated because GreenClean quickly breaks down into water and oxygen.

**2) Could waste materials enter ground or surface waters? If so, generally describe.** Yes. Wastes from the product discharged will be comprised of undissolved sodium carbonate peroxyhydrate as well as dead algae and organic materials resulting from the application. The volume is anticipated to be minimal because this product will not be authorized for use in wetlands or the riparian zones of lakes and ponds. The label requires the applicator to skim any dead algae or organic matter off the surface of the water to prevent adding nutrients to the water.

**d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:** The concentration of product is regulated by the label.

#### **4. Plants**

**a. Types of vegetation found on the site:** Any aquatic plant could come in contact with GreenClean applications, including water lily, eelgrass, milfoil, algae, and other aquatic vegetation. This product will only be applied to water where algae are present.

Macrophyte Effects:

- Ceratophyllum demersum: 34 mg/L; Continuous Exposure; 80% necrosis
- Hydrilla verticillata; 34 mg/L; 1 hour; 30% necrosis
- Hydrilla verticillata; 136 mg/L; NR; 80% necrosis
- Myriophyllum spicatum, Carex riparia, Chara sp. - all survived up to 20ppm H<sub>2</sub>O<sub>2</sub>
- Elodea canadensis toxicity - 10ppm H<sub>2</sub>O<sub>2</sub>
- Cabomba caroliniana, Egeria densa, Hydrilla verticillata - all showed injury after 1 hour exposure to 34-48ppm H<sub>2</sub>O<sub>2</sub>
- Hydrilla and Coontail - can be affected by continuous exposure for five days at 34ppm H<sub>2</sub>O<sub>2</sub>

**b. List threatened or endangered species known to be on or near the site.** Any threatened or endangered aquatic species that is in the water at the time of application may be on or near the application site.

**c. Is the site part of a migration route?** The general permit will authorize use of GreenClean in water of the state where listed or endangered fish may be present. The application requires the applicator to consult with WDFW or USF&W before making application to site containing listed species.

**d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:** None proposed.

#### **5. Animals**

**a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:** All listed below.



Birds: hawk, heron, eagle, songbirds, other:

Mammals: deer, bear, elk, beaver, other:

Fish: bass, salmon, trout, herring, shellfish, other:

**b. List any threatened or endangered species known to be on or near the site.** Any threatened or endangered aquatic species that is in the water at the time of application may be on or near the application site.

**c. Is the site part of a migration route? If so, explain.** The general permits will authorize use of GreenClean in lakes, ponds, and irrigation conveyance systems across the state. Some sites may be part of a migration route.

**d. Proposed measures to preserve or enhance wildlife, if any:** Label conditions limit concentrations and drift to minimize exposure to non-target flora and fauna.

## **6. Energy and natural resources**

**a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**  
NA

**b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.** No.

**c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:** None.

## **7. Environmental health**

**a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.**  
GreenClean is corrosive and may cause environmental damage if it is spilled. However, if the product is applied according to label directions the hazards would be very minimal. GreenClean has a federal FIFRA label. It is a violation of federal law to apply the product in a manner inconsistent with its labeling. In Washington, GreenClean is given restricted label status because it is applied to water. The restricted status means it can only be applied by a licensed pesticide applicator. Licensed applicators are trained to read and follow labels. The label provides instructions to minimize harm from accidental exposure or spills.

**1) Describe special emergency services that might be required.** None.

**2) Proposed measures to reduce or control environmental health hazards, if any:** None.

**b. Noise**



**1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?** None.

**2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example, traffic, construction, operation, other)?** Indicate what hours noise would come from the site. Only the noise of a boat on the water applying the product.

**3) Proposed measures to reduce or control noise impacts, if any:** None.

## **8. Land and Shoreline use**

**a. What is the current use of the site and adjacent properties?** Most properties affected by this proposal include lakes, ponds and irrigation conveyance systems. These waters are respectively used for recreation and irrigation.

**b. Has the site been used for agriculture? If so, describe.** Irrigation systems are used for agriculture.

**c. Describe any structures on the site.** NA

**d. Will any structures be demolished? If so, what?** No.

**e. What is the current zoning classification of the site?** It varies.

**f. What is the current comprehensive plan designation of the site?** It varies by location.

**g. If applicable, what is the current shoreline master program designation of the site?** NA

**h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.** Some treatment sites may fall within environmentally sensitive areas. However, no impact to those areas is anticipated.

**i. Approximately how many people would reside or work in the completed project?** NA

**j. Approximately how many people would the completed project displace?** None

**k. Proposed measures to avoid or reduce displacement impacts, if any:** None needed.

**l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:** Public comment will be taken for this proposal.

## **9. Housing**

**a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.** NA

**b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.** NA



**c. Proposed measures to reduce or control housing impacts, if any:** NA

#### **10. Aesthetics**

**a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?** NA

**b. What views in the immediate vicinity would be altered or obstructed?** None

**c. Proposed measures to reduce or control aesthetic impacts, if any:** Skimming dead algae or organic matter from surface waters is required by the label.

#### **11. Light and glare**

**a. What type of light or glare will the proposal produce? What time of day would it mainly occur?** NA

**b. Could light or glare from the finished project be a safety hazard or interfere with views?** NA

**c. What existing off-site sources of light or glare may affect your proposal?** NA

**d. Proposed measures to reduce or control light and glare impacts, if any:** NA

#### **12. Recreation**

**a. What designated and informal recreational opportunities are in the immediate vicinity?** Water contact recreation.

**b. Would the proposed project displace any existing recreational uses? If so, describe.** Yes. Areas being treated with GreenClean would be closed to recreational activities during and for two hours after treatment applications.

**c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:** The restricted area would be posted by the applicator.

#### **13. Historic and cultural preservation**

**a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.** Treatment sites may lie within preservations.

**b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.** NA

**c. Proposed measures to reduce or control impacts, if any:** None needed for historic and cultural preservation.



#### 14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any. NA

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop? NA

c. How many parking spaces would the completed project have? How many would the project eliminate? None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private). No

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. Applicators will use their own boats.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur. NA

g. Proposed measures to reduce or control transportation impacts, if any: None needed.

#### 15. Public services

a. Would the project result in an increased need for public services (for example, fire protection, police protection, health care, schools, other)? If so, generally describe. No

b. Proposed measures to reduce or control direct impacts on public services, if any. None needed.

#### 16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other. NA

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. NA

#### C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:\_\_\_\_\_

Date Submitted:\_\_\_\_\_

**WAC 197–11–965 Adoption notice.**



## **ADOPTION OF EXISTING ENVIRONMENTAL DOCUMENTS**

**Adoption for (check appropriate box):** " **DNS** " EIS " other

**Description of current proposal:** Evaluation of GreenClean Algaecide (EPA registration number 70299-4) for use in Washington State waters.

**Proponent:** Washington State Department of Ecology Water Quality Program

**Location of current proposal:** Washington State Department of Ecology SEPA register

**Title of documents being adopted:**

- SEPA Checklist and DNS: Evaluation of GreenClean Algaecide for use in Washington State waters, 1/21/04.
- GreenClean Granular Label, EPA Reg. No. 70299-4 and MSDS, dated May 30, 2003; <http://www.biosafesystems.com/labels/GC-SpecMSDS.pdf>
- Machado, Mark. GreenClean – Acute Toxicity To Rainbow Trout, Springborn Study No. 13780.6100, Springborn Laboratories, 790 Main St. Wareham, MA 02571-1075, December 6, 2001. MRID 455549-01.
- USEPA Memorandum on the Registration of the new end-use product ZeroTol™ containing 27.18% hydrogen dioxide as its active ingredient. Review of Ecological Effects Data (Submission No. S528317; Chemical No. 000595; Case No. 060484, MRID nos. 44116004 and 44116005; DP Barcode D230593) January 23, 1998.
- USEPA Fact Sheet, Sodium Carbonate Peroxyhydrate (128860), [http://www.epa.gov/pesticides/biopesticides/ingredients/factsheets/factsheet\\_128860.htm](http://www.epa.gov/pesticides/biopesticides/ingredients/factsheets/factsheet_128860.htm), September 2002.

**Agency that prepared documents being adopted:** US Environmental Protection Agency and Washington state Department of Ecology

**Date adopted document was prepared:** Dates given above

**Description of document (or portion) being adopted:** Supporting documents for registration of GreenClean, an algaecide.

**If the document being adopted has been challenged ([WAC 197-11-630](#)), please describe:** None known

**The document is available to be read at (place/time):** Washington State Department of Ecology HQ, 300 Desmond Dr., Olympia, WA 98504-7600 during regular weekday work hours and on-line at noted web-sites.

We have identified and adopted this document as being appropriate for this proposal after independent review. The document meets our environmental review needs for the current proposal and will accompany the proposal to the decision maker.



**Name of agency adopting documents:** Washington State Department of Ecology

**Contact person, if other than responsible official:**

Kathleen Emmett, PO Box 47600, Olympia, WA 98504-7600, [Telephone 360-407-6478](tel:360-407-6478)

Fax 360-407-6426 [kemm461@ecy.wa.gov](mailto:kemm461@ecy.wa.gov)

**Date\_Signature** \_\_\_\_\_

[Statutory Authority: RCW 43.21C.110. 84-05-020 (Order DE 83-39), § 197-11-965, filed 2/10/84, effective 4/4/84.]



X This DNS is issued under [WAC 197-11-340](#)(2); the lead agency will not act on this proposal for 30 days from the date below. Comments must be submitted by 2/20/04.

Responsible official: Melissa Gildersleeve

Position/title\_Phone Water Quality Program Section Manager

Address: Washington State Department of Ecology HQ, 300 Desmond Dr., Olympia, WA 98504-7600

Date\_Signature \_\_\_\_\_

*(optional)*

.. You may appeal this determination to (name)

at (location)

no later than (date)

by (method)

You should be prepared to make specific factual objections.

Contact\_to read or ask about the procedures for SEPA appeals.

.. There is no agency appeal.

[Statutory Authority: 1995 c 347 (ESHB 1724) and RCW 43.21C.110. 97-21-030 (Order 95-16), § 197-11-970, filed 10/10/97, effective 11/10/97. Statutory Authority: RCW 43.21C.110. 84-05-020 (Order DE 83-39), § 197-11-970, filed 2/10/84, effective 4/4/84.]